Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Appendix Appendix are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO SUPPLEMENTAL INFORMATION DAS STATEMENT BY A

Complete if Known Application Number 09/834,596 Filing Date April 13, 2001 First Named Inventor Watanabe et al. **Group Art Unit** 1623 **Examiner Name** Howard V. Owens, Jr.

(use as many sheets as necessary Sheet 1 of

Attorney Docket Number 08841.105037 PHAR 2020

			J	J.S. PATENT DOCUMENTS		
Examiner	Cite	U.S. Patent Doc	ument	Name of Patentee or Applicant of	Date of Publication	Pages, Columns, Lines, Where
Initials *	No. 1	Number	Kind Code (if known)	Cited Document	of Cited Document MM-DD-YYYY	Relevant Passages/Relevant Figures Appear
NO	AA	3,480,613		Walton et al.	11-25-1969	
	AB	5,977,061		Holy et al.	11-02-1999	
	AC	6,340,690	B1	Bachand et al. (Idenix Pharm.)	01-22-2002	
	AD	6,395,716	B1	Gosselin et al. (Idenix Pharm.)	05-28-2002	
	AE	6,444,652	B1	Gosselin et al.	09-03-2002	
	AF	6,573,248	B2	Ramasamy et al.	06-03-2003	
	AG	2002/0055483	A1	Watanabe et al.	05-09-2002	
	AH	2002/0147160	A1	Bhat et al.	10-10-2002	
	AI	2003/0008841	Al	Devos et al.	01-09-2003	
	AJ	2003/0028013	A1	Wang et al.	02-06-2003	
	AK	2003/0050229	A1	Sommadossi et al. (Idenix Pharm.)	03-13-2003	
	AL	2003/0083307	A1	Devos et al.	05-01-2003	
VHO	AM	2003/0087873	A1	Stuyver et al.	05-08-2003	

				FOR	EIGN PATENT DOCUMENTS			
Examiner Initials *	Cite No. 1	Office 3		ment I Code ² known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
	AN	FR	1,521,076		Merck & Co. Inc.	- 04-12-1968		
	A0	FR	1,581,628		Merck & Co. Inc.	09-19-1969	· · · · · · · · · · · · · · · · · · ·	\top
	A.P.	FR	2,662,165 🗸	A1	Univ Pierre et Marie Curie, Paris	11 22 1991		
Ho	AQ	GB	1,163,103 AV		Merck & Co. Inc.	09-04-1969		
No	AR	GB	1,209,654 AV	Α	Merck & Co. Inc.	10-21-1970		
	AS	JР	63 215694 7	A	Yamasa Shoyu Co. Ltd.	09-08-1988		
	AT.	JР	06-228186 √		Yamasa Shoyu Co. Ltd.	08-16-1994		
40	AU	wo	98/16184 √/	A2	ICN Pharmaceuticals Inc.	04-23-1998		
HU	ΑV	wo	99/43691	A1	Emory U./Georgia Res. Found.	09-02-1999		

Examiner Signature Survey Cons	Date Considered	6/30/04

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

3372258_3

Please type a plus sign (+) inside this box

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of U.S., no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO	IAN 2 3 2004 W
SUPPLEMENTAL	
INFORMATION DI	SCLOSUBE
STATEMENT BY A	PPITTANT

	Complete if Known	
Application Number	09/834,596	
Filing Date	April 13, 2001	
First Named Inventor	Watanabe et al.	
Group Art Unit	1623	
Examiner Name	Howard V. Owens, Jr.	

Sheet 2 of 7

Attorney Docket Number 08841.105037 PHAR 2020

				FOR	EIGN PATENT DOCUMENTS			
Examiner Initials *	Cite No. 1	Office 3		ment 1 Code ² (known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Té
Sto	BA	WO	00/09531	A2	Novirio (Idenix Pharmaceuticals)	02-24-2000		
	BB	wo	01/16671 √	A1	Novirio (Idenix Pharmaceuticals)	03-08-2001		T
	BC	wo	01/32153	A2	Biochem Pharma, Inc.	05-10-2001		T
	BD	WO	01/60315 √	A2	Biochem Pharma, Inc.	08-23-2001		
	BE	WO	01/68663 🗸	• A1	ICN Pharmaceuticals Inc.	09-20-2001		Т
	BF	wo	01/79246 √,	A2	Pharmasset Ltd	10-25-2001		
	BG	wo	01/90121 🗸	A2	Novirio (Idenix); UnivCagliari	11-29-2001		
	BH	wo	01/91737 🗸	A2	Novirio (Idenix Pharmaceuticals)	12-06-2001		1
	BI	WO	01/96353 √	A2	Novirio (Idenix); CNRC	12-20-2001		
	BJ	wo	02/03997	A1	ICN Pharmaceuticals Inc.	01-17-2002		
	BK	wo	02/18404 🗸	A2	F. Hoffmann-La Roche AG	03-07-2002		T
	BL	wo	02/32920	A2	Pharmasset Ltd.	04-25-2002		
	BM	wo	02/48165 🗸	- A2	Pharmasset Ltd.	06-20-2002		
	BN	wo	02/057287 V	A2	Merck & Co. Inc.; Isis Pharm.	07-25-2002		
	ВО	wo	02/057425 🗸	A2	Merck & Co. Inc.; Isis Pharm.	07-25-2002		
	BP	WO	02/070533	A2	Pharmasset Ltd.	09-12-2002		
	BQ	wo	02/094289	, A1	F. Hoffmann-La Roche AG	11-28-2002		\vdash
	BR	wo	02/100415	A2	F. Hoffmann-La Roche AG	12-19-2002		
	BS	wo	03/026589	A2	Novirio (Idenix Pharmaceuticals)	04-03-2003		Г
	BT	wo	03/026675	A1	Novirio (Idenix Pharmaceuticals)	04-03-2003		<u> </u>
	BU	wo	03/051899	A1	Ribapharm Inc.	06-26-2003		
	BV	wo	03/061385	A1	Ribapharm Inc.	07-31-2003		
	BW	wo	03/061576	A2	Ribapharm Inc.	07-31-2003		\vdash
	BX	wo	03/062255	A2	Ribapharm Inc.	07-31-2003		
	BY	wo	03/062256	Al	Ribapharm Inc.	07-31-2003		
46	BZ	wo	03/062257	A 1	Ribapharm Inc.	07-31-2003		

Examiner	11 16 1/2	Date	7.101
Signature	Howard Sis	Considered	1.1.09

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box $\longrightarrow \coprod$

3

Sheet

Approved for use through 10/31/2002. OMB 0651-0031 I Trademark Office: U.S. DEPARTMENT OF COMMERCE

08841.105037 PHAR 2020

Under the Paperwork Konucion As of 1995, no pers	ons are required to respond to a col	Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE llection of information unless it contains a valid OMB control number.
Substitute for form 1449A/PTO		Complete if Known
SHIPPH EDWENITAL (JAN 2 3 2004 L)	Application Number	09/834,596
SUPPLEMENTAL	Filing Date	April 13, 2001
INFORMATION DISCLOSURE	First Named Inventor	Watanabe et al.
STATEMENT BY APPEACANT	Group Art Unit	1623
(use as many sheets as necessary)	Examiner Name	Howard V. Owens, Jr.

Attorney Docket Number

_							3372238_3	
				FOR	EIGN PATENT DOCUMENTS		-	
Examiner Initials *	Cite No. 1	Office 3		nd Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
40	CA	WO	03/063771	A2	Pharmasset Ltd.	08-07-2003		
Ho	CB	wo	03/068162	A2	Pharmasset Ltd.	08-21-2003		T
HO	CC	wo	03/072757	A2	Biota Inc.	09-04-2003		
XO	CD	wo	03/093290	A2	Genelabs Technologies Inc.	11-13-2003		

7

L=		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	CE	ALTMANN, K.H., et al., "The Synthesis of 1'-methyl carbocyclic thymidine and its effect on nucleic acid duplex stability", Synlett, Thieme Verlag, Stuttgart, De, October 1994, 10, 853-855	
	CF	BAGINSKY, S.G. et al., "Mechanism of action of a pestivirus antiviral compound," Proc. Nat. Acad. Sci. (USA) 2000, 97(14), 7981-7986.	
	CG	BEIGELMAN, L.N., et al, "Dimerization during the acetolysis of 3-O-acetyl-t-O-benzoyl-1,2-Q-, isopropylidene-3-C-methyl- α -D-ribofluanose. synethesis of 3'-C-methylnucleosides with the β -D-ribo- and α -D-arabino configurations", Carbohydrate Research, 1988, 181, 77-88.	
	СН	BEIGELMAN, L.N., et al, "A general method for synthesis of 3" C alkylnucleosides", Nucleic Acids Symp. Ser., 1981, 9, 116-119.	
. [CI	BERENGUER et al, "Hepatitis B and C Viruses: Molecular Identification and Targeted Antiviral Therapies," Proceedings of the Association of American Physicians, 1998, 110(2), 98-112	
	CJ	CARROLL, S.S., et al. "Inhibition of Hepatitis C Virus RNA Replication by 2'-Modified Nucleoside Analogs," The Journal of Biological Chemistry, 2003, 278 (14), 11979-11984.	
	CK	CZERNECKI, S., et al, "Syntheses if Various 3'-Brached 2',3'-Unsaturated Pyrimidine Nucleosides as Potential Anti-HIV Agents," J. Org. Chem., 1992, 57, 7325-7328.	
	CL	DeFRANCESCO, R. et al., "Approaching a new era for hepatitis C virus therapy: inhibitors fot eh NS3-4A serine protease and the NS5B RNA-dependent RNA polymerase," Antiviral Research, 2003, 58, 1-16.	
	CM	FAIVRE BUET, V., et al, "Synthesis of 1' Deoxypsicofuranosyl-deoxynucleosides as Potential Anti-HIV Agents," Nucleosides & Nucleotides, 1992, 11(7), 1411-1424.	
	CN	FARKAS, J., et al., "Nucleic acid components and their analogues. XCIV. Synthesis of 6-amino-9-(1-deoxy-D-psicofuranosyl)purine" Collect. Czech. Chem. Commun. 1967, 32, 2663-2667.	

Examiner Signature Honal Cas	Date Considered 6 30 04
------------------------------	-------------------------

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Papers of Reddetion Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Please type a plus sign (+) inside this box Complete if Known

Attorney Docket Number

Substitute for form 1449A/PTO JAN 2 3 2004 SUPPLEMENTA INFORMATION DISCLOSI STATEMENT BY APPLICA

(use as many sheets as necessary)

of

7

Sheet

4

Application Number 09/834,596 Filing Date April 13, 2001 First Named Inventor Watanabe et al. **Group Art Unit** 1623 **Examiner Name** Howard V. Owens, Jr.

08841.105037 PHAR 2020

3372258 3

		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Т
	DA	FARKAS, J., "Nucleic acids components and their analogues. LXXIX. Synthesis of methyl 1 deoxy-D-psicofuranosides substituted at C(1) with haolo atoms or a mercapto group,", Collect. Czech. Chem. Commun. 1966, 31, 1535-1543.	
_	DB	FEDEROV, I.I., et al, "3'-C-branched 2'-deoxy-5-methyluridines: Synthesis, enzyme inhibition, and antiviral properties,", J. Med. Chem., 1992, 35, 4567-4575.	
	DC	FRANCHETTI, P., et al, "2" C-methyl analogues of selective adenosine receptor agonists: Synthesis and binding studies," J. Med. Chem., 1998, 41, 1708-1715.	
	DD	GROUILLER, A., et al., "Novel p-tolyenesulfonylation and thionocarbonylation of unprotected thymine nucleosides," Synlett, 1993, 221-222	
	DE	HARAGUCHI, K., et al, "Preparation and reactions of 2'- and 3'- vinyl bromides of uracil-nucleosides: versatile synthons for anti-HIV agents." Tetrahedron Letters, 1991, 32(28), 3391-3394.	
	DF	HARRAGUCHI, K., et al, "Stereoselective synthesis of 1' C branched uracil nucleosides from uridine, Nucleosides & Nucleotides, 1995, 14, 417-420.	
	DG	HARRY-O'KURU, et al., "A short, flexible route toward 2'-C-branched ribonucleosides", J. Org. Chem. 1997, 62, 1754-1759	
	DH	HARRY O'KURU, R.E., et al., "2'-C-Alkylribonucleosides: Design, Synthesis, and Conformation," Nucleosides & Nucleotides, 1997, 16 (7-9), 1457-1460.	
	DI	HATTORI, H., et al., "Nucleosides and Nucleotides. 175. Structural requirements of the suga moiety forthe antitumor activities of new nucleoside antimetabolites, 1-(3-C-ethynyl-β-D-ribopentofuranosyl) cytosine and -uracil," J. Med. Chem., 1998, 41, 2892-2902.	
	DJ	HREBABECKY, H. et al., "Nucleic acid components and their analogues. CXLIX. Synthesis of pyrimidine nucleosides derived from 1-deoxy-D-psicose," Collect. Czech. Chem. Commun. 1972, 37, 2059-2065	
	DK	HREBABECKY, H., et al., "Synthesis of 7- and 9β-D-psicofuranosylguanine and their 1'-deoxy derivatives," Collect. Czech. Chem. Commun. 1974, 39, 2115-2123	
	DL	IINO, T., et a.l, "Nucleosides and Nucleotides. 139. Stereoselective synthesis of (2'S)-2'-C-alkyl-2'-deoxyuridines," Nucleosides and Nucleotides, 1996, 15, 169-181.	
	DM	ITOH, Y., et al., "Divergent and stereocontrolled approach to the synthesis of uracil nucleosides branched at the anomeric position," I. Org. Chem., 1995, 60, 656-662.	
	DN	IOHNSON, C.R., et al, "3'-C-trifuloromethyl ribonucleosides, Nucleosides & Nucleotides, 1995, 74, 185-	

Examiner Signature	Hound Laws	Date Considered	6-30-04	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1996, to persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known

Application Number 09/834,596

Filing Date April 13, 2001

First Named Inventor Watanabe et al.

Group Art Unit 1623

Examiner Name Howard V. Owens, Jr.

Attorney Docket Number 08841.105037 PHAR 2020

(use as many sheets as necessary)
Sheet 5 of 7

3372258 3

		33/2238_3	<u>, </u>
		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T6
	EA	KAWANA, M., et al, "The deoxygenation of tosylated adenosine derivatives with Grignard reagents," Nucleic Acids Symp. Ser., 1986, 17, 37-40.	
	EB	LAVAIRE, S., et al, "3' deoxy-3' trifluoromethyl nucleosides: synthesis and antiviral evaluation," Nucleosides & Nucleotides, 1998, 17, 2267-2280.	
	EC	LEYSSEN, P. et al., "Perspectives for the treatment of infections with Flaviviridae", Clinical Microbiology Reviews, Washington, D.C., (January 2000), 13(1), 67-82.	
	ED	MARTIN, X., et al., "Intramolecular hydrogen bonding in primary hydroxyl of thymine 1-(1-deoxy-β-D-psicofuranosyl) nucleoside," Tetrahedron, 1994, 50, 6689-6694.	
	EE	MATSUDA, A., et al., "Radical deoxygenation of tert-alcohols in 2-branched chain sugar pyrimidine nucleosides: synthesis and antileukemic activity of 2'-deoxy-2'(S) methylcytidine," Chem. Pharm. Bull., 1987, 35, 3967-3970.	
	EF	MATSUDA, A., et al., 'Nucleosides and Nucleotides. 94. Radical deoxygenation of tert-alcohols in 1-(2-C-alkylpentofuranosyl)pyrimidines: Synthesis of (2'S)-2'-deoxy-2'-C-methylcytidine, an antileukemic nucleoside," J. Med. Chem., 1991, 34, 234-239.	
	EG	MATSUDA, A., et al, "Nucleosides and Nucleotides. 104. Radical and palladium-catalyzed deoxygenation of the allylic alcohol systems in the sugar moiety of pyrimidine nucleosides," Nucleosides & Nucleotides, 1992, 11(No. 2/4), 197-226.	
	EH	MATSUDA, A., et al., "Alkyl addition reaction of pyrimidine 2'-ketonucleosides: synthesis of 2'-branched-chain sugar pyrimidine nucleosides (Nucleosides and nucleotides. LXXXI.)," Chemical & Pharmaceutical Bulletin, March 1988, 36, 945-953.	
	EI	MIKHAILOV, S.N., et al, "Synthesis and properties of 3' C-methylnucleosides and their phosphoric esters," Carbohydrate Research, 1983, 124, 75-96.	
	EJ	MIKHAILOV, S.N., et al, "Hydrolysis of 2'- and 3'-C-methyluridine 2',3'-cyclid monophosphates and interconversion and dephosphorylation of the resulting 2'- and 3'-monophosphates: comparison with the reactions of uridine monophosphates," J. Org. Chem., 1992, 57, 4122-4126.	
	EK	MIKHAILOV, S.N., et al, "Substrate properties of C'-methylnucleoside and C'-methyl-2'-deoxynucleoside 5'-triphophates in RNA and DNA synthesis reactions catalysed by RNA and DNA polymerases,". Nucleosides & Nucleotides, 1991, 10, 339-343.	
	EL	NUTT, R.F., et al., "Branched-chain sugar nucleosides, III. 3'-C-methyladenine," J.Org. Chem. 1968, 33, 1789-1795.	

Examiner Signature	Hand Clas	Date Considered	6/30/01	
				- 1

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box

6

Sheet

THIPE

7

of

Approved for use through 10/31/2002. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

08841.105037 PHAR 2020

Under the Paperwork Reduction Act of 1905 no person	ons are required to respond to a col	ection of information unless it contains a valid OMB control n
Substitute for form 1449A/PTO JAN 2 3 2004		Complete if Known
E A	Application Number	09/834,596
SUPPLEMENTAL	Filing Date	April 13, 2001
INFORMATION DISCLOSURE	First Named Inventor	Watanabe et al.
STATEMENT BY APPLICANT	Group Art Unit	1623
(use as many sheets as necessary)	Examiner Name	Howard V. Owens, Jr.

Attorney Docket Number

		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	,
			T
Examiner Initials *	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	1
	FA	OIVANEN, M., et al, "Additional evidence for the exceptional mechanism of the acid-catalysed hydrolysis of 4-oxopyrimidine nucleosides: hydrolysis of 1-(1-alkoxyalkyl)uracils. Seconucleosides. 3'-C-alkyl nucleosides and nucleosides 3',5'-cyclic monophosphates," J. Chem. Soc. Perkin Trans., 1994, 2, 309-314.	
	FB<	ONG, S.P., et al, "Synthesis of 3'-C-methyl adenosine and 3'-C-methyluridine diphosphates and their interaction with the ribonucleoside diphosphate reductase from Corynebacterium nephridii," Blochemistry, 1992, 31, 11210-11215.	
	FC	PAN-ZHOU X-R, et al., "Differential effects of antiretroviral nucleoside analogs on mitochondrial function in HepG2 cells," Antimicrob Agents Chemother 2000; 44(no.3), 496-503.	
	FD	ROSENTHAL, A., et al, "Branched-chain sugar nucleosides. Synthesis of 3'-C-ethyl (and 3'-C-butyl)uridine," Carbohydrate Research, 1980, 79, 235-242.	
	FE	SAMANO, V., et al, "Nucleic acid related compounds. 77. 2',3'-didehydro-2',3'-dideosy-2'(and 3')-methylnueleosides via [3,3]-sigmatropic rearrangements of 2'(and 3')-methylene-3' (and 2')-O-thiocarbonyl derivatives and radical reducation of a 2'-chloro-3'-methylene analogue," Can. J. Chem., 1993, 71, 186-191.	
	FF	SAMANO, V., et al, "Synthesis and radical-induced ring-opening reactions of 2'-deoxyadenosine-2'-spirocyclopropane and its uridine analogs. Mechanistic probes for ribonucleotide reductases," J. Am. Chem. Soc., 1992, 114, 4007-4008.	
	FG	SCHMIT, C. et al., "The effects of 2'- and 3'-alkyl substituents on oligonucleotide hybridization and stability,", Biorganic & Medicinal Chemistry Letters, 1994, 4(No.16), 1969-1974.	
	FH	SERAFINOWSKI, P.J., et al, "New method for the preparation of some 2'- and 3'-trifluoromethyl-2'-3'-dideoxyuridine derivatives," Tetrahedron, 1999, 56(No. 2), 333-339.	
	FI	SHARMA, P.K., et al, "Synthesis of 3'-trifluoromethyl nucleosides as potential antiviral agents," Nucleosides, Nucleotides and Nucleic Acids, 2000, 19(No. 4), 757-774.	
	FJ	SOMMADOSSI J-P, et al., "Comparison of cytotoxicity of the (-)- and (+)-enantiomer of 2',3'-dideoxy-3'-thiaeytidine in normal human bone marrow progenitor cells," <i>Biochemical Pharmacology</i> , 1992; 44:1921-1925.	
	FK	SOMMADOSSI J-P, et al., "Toxicity of 3'-azido-3'-deoxythymldine and 9-(1,3-dihydroxy-2-propoxymethyl)guanine for normal human hematopoietic progenitor cells in vitro," Antimicrobial Agents and Chemotherapy, 1987, 31(No. 3), 452-454:	
	FL	TRITSCH, D., et al., "3'-β-ethynyl and 2'-deoxy-3'-β-ethynyl adenosines: first 3'-β-branched-adenosines substrates of adenosine dearninase," Bioorganic & Medicinal Chemistry Letters, 2000, 10, 139-141.	

Examiner Signature	Honord Sols	Date Considered	6-30-01
	Ny water / -	Considered	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ¹ See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Sheet

Approved for use through 10/31/2002. OMB 0651-0031

	Under the Paper	wort Reduct	lion Act of 1995, no per	U.S. Patr rsons are required to respond to a coller	tent and Trademark Office: U.S. DEPARTMENT OF COMMERCE ction of information unless it contains a valid OMB control number.
Substitut	te for form 1449A/PTO		Co.		Complete if Known
		JAN 2	3 2004 1	Application Number	09/834,596
	PLEMENTAL	!	Ħ	Filing Date	April 13, 2001
	ORMATION E			First Named Inventor	Watanabe et al.
STA	TEMENT BY	APPACI	EXNT	Group Art Unit	1623
	(use as many sheets	as necessai	ry)	Examiner Name	Howard V. Owens, Jr.
t	7	of	7	Attorney Docket Number	08841.105037 PHAR 2020

3372258_3 OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Cite Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, Examiner Initials * No. 1 serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. GA TUNITSKAYA, V.L., et al, "Substrate properties of C'-methyl-UTP derivatives in T7 RNA polymerase reactions. Evidence for N-type NTP conformation," FEBS Letters, 1997, 400, 263-266. GB USUI, H., et al, "Synthesis of 2'-dcoxy-8,2'-ethanoadenosine and 3'-deoxy-8,3'-ethanoadenosine -(Nucleosides and Nucleotides. LXIV)," Chem. Pharm. Bull., 1986, 34, 15-23. WALCZAK, K., et al, "Synthesis of 1-(3-alkyl-2,3-dideoxy-D-pentofuranosyl)uracils with potential anti-GC HIV activity," Acta Chemica Scand., 1991, 45, 930-934. WALTON, E., et al, "Branched-chain sugar nucleosides. V. Synthesis and antiviral properties of several GD branched-chain sugar nucleosides," J. Med. Chem., 1969, 12, 306-309. **GE** WOLFE, M.S., et al, "A concise synthesis of 2'-C-methylrihonucleosides," Tetrahedron Letters, 1995. *36(No. 42),* 7611-7614. **GF** WII, J. C., et al, "A new stereospecific synthesis of [3.1.0] bioyelic cyclopropano analog of 2,3dideoxyuridine," Tetrahedron, 1990, 46, 2587-2592.

Examiner Signature	Harrel Ele	Date Considered	6-30-04

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box	Please type a	plus sign (+)	inside this box
---	---------------	---------------	-----------------

+

AUG 1 7 2001

PTO/SB/08A (10-96)

Under the Paperwork Reduction Act of 1995, no persons are required to respond the collection of infor

Approved use through 10/31/99. OBM 0651-0031 vatent and Trademark Office: U.S. DEPARTMENT OF COMMERCE collection of information unless it displays a valid OMB control number.

Substitute for form 1449A/PTO
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(use as many sheets as necessary)

Application Number 09/834,596

Filing Date 13 April 2001

First Named Inventor Watanabe, K.

Group Art Unit 1614

Examiner Name Not Assigned

Attorney Docket Number PHARM1

جيدن							8
				U.S. PATENT DOC	CUMENTS		133
Examiner Initials	Code No.	U.S. Paten Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	8
HD		5534535		Townsend, et al.	9 July 1996		
10		6159951		Karpeisky et al.	12 Dec. 2000		
ijζρ		5905070		Schinazi, etal.	18 May 1999		
42		6271212		Chu, et al.	7 Aug. 2001		
HO.		6248878		Matulic-Adamic et al.	19 June 2001		
						.=	
				•			

				FOREIGN	PATENT DOCUMENT	S		
		I	Foreign Patent Docur	nent			Pages, Columns, Lines,	
Examiner Initials ¹	Code No.	Office ³	Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	T⁴
		-	_ _					
1		1 1						

Examiner	0//	Date		
Signature	Hound Cla	Considered	7-1-04	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the twoletter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box	→	
---	----------	--

PTO/SB/08B (10-96)

Approved for use through 10/31/99. OBM 0651-0031 nt and Trademark Office: U.S. DEPARTMENT OF COMMERCET

to appraise the first and Trademark Office: U.S. DEPAR IMENIOR CONTROL NUMBER. Under the Paperwork Reduction Act of 1995, no persons are required to

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) Sheet 2 of 3 Filing Date 04/13/01 First Named Inventor WATANABE Group Art Unit 1614 Examiner Name Not Assigned Attorney Docket Number PHARM1	Substitute for form 1449B/PTO		Application Number	09/834,596	1		
(use as many sheets as necessary) Group Art Unit Examiner Name Not Assigned Not Assigned					Filing Date	04/13/01	
STATEMENT BY APPLICAN1 Group Art Unit 1614 (use as many sheets as necessary) Examiner Name Not Assigned	INFUK	STATEMENT BY APPLICANT			First Named Inventor	WATANABE	-
Auto Dilay i pyyanya	STATE				Group Art Unit	1614	
Sheet 2 of 3 Attorney Docket Number PHARM1	(use as many sheets as necessary)			cessary)	Examiner Name	Not Assigned	DO
	Sheet	2	of	3	Attorney Docket Number	PHARM1	

		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Code No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, paper(s), volume-issue number)s), publisher, city and/or county where published.	T²
Ho		Fedorov, I., et al., XIII International Round Table: Nucleosides, Nucleotides and Their Biological Applications. Montpellier, France, September 6-10, 1998. Poster 35.	
Ho		Kato, K., et al., XIII International Round Table: Nucleosides, Nucleotides and Their Biological Applications. Montpellier, France, September 6-10, 1998. Poster 49.	
16		Svansson, L., et al., J. Org. Chem., 1991, 56: 2993-97	
bo	4	Wengel, J., et al., Bioorganic & Medicinal Chemistry, vol. 3, No. 9, pp. 1223-29, 1995.	
Дb		Lin, T., et al., J. Med. Chem., 1993, 36:353-62	
(fi)		Gauvry, N., et al., Tetrahedron 55 (1999) 1321-28.	
40		Sterzyncki, R., et al., Nucleosides & Nucleotides, 10(1-3), 291-94 (1991)	
J.		Lee-Ruff, E., et al., J. Med. Chem., 1996, 39:5276-80	
Ho		Bamford, M., et al., J. Med. Chem., 1990, 33:2494-2501	
Lo		Tino, J., J. Med. Chem, 1993, 36:1221-29	
Bo		Brown, B., J. Org. Chem., 1998, 63:8012-18	-

Examiner Signature	worl Des	Date Considered	7.1.04	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the twoletter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 3 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement. This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus si	gn (+) inside this box
-----------------------	------------------------

+ (AUG 1 7 2001

PTO/SB/06E (10-96)
Approved for use through 10/31/99. OB 951-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to respond

Substitute for 1	form 14	49B/P	то	Application Number	09/834,596	171	22
INFODMA	TION	nic	CLOSURE -	Filing Date	04/13/01	33	<u> </u>
				rirst Named Inventor	WATANABE	6	~
STATEME	NI B	Y A	PPLICANT -	Group Art Unit	1614	8	0
(use as ma	any she	ets as r	ecessary)	Examiner Name	Not Assigned		
Sheet	3'	of	3	Attorney Docket Number	PHARM1	Š	

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Code No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, paper(s), volume-issue number)s), publisher, city and/or county where published.	T,
#0		Pudlo, J., Nucleosides & Nucleotides, 11(2-4), 279-93 (1992)	
		Fiandor, J., et al., Nucleosides & Nucleotides, 8(5&6), 1107-8 (1989)	
		Jeong, L., et al., Nucleosides & Nucleotides, 16(7-9), 1059-62 (1997)	
		Jorgensen, P., et al., Nucleosides & Nucleotides, 16(7-9), 1063-66 (1997)	_
		Frieden, M., et al., J. Chem. Soc. Perkin Trans I, 1998, 2827-32	
		Slusarchyk, W., J. Med. Chem., 1992, 35:1799-1806	
		Bisacchi, G., et al., J. Med. Chem., 1991, 34:1415-21	
UHU		Qiu, Y., et al., J. Med. Chem., 1998, 41:10-23	
Ho		Sekiyama, T., J. Med. Chem., 1998, 41:1284-98	

Examiner Signature	Joen Jas	Date Considered	7-1-04	
EVALORED			THE RESERVE THE PARTY OF THE PA	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ¹ See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the twoletter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement. This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.